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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KNAUSS, SCOTT A	
ART UNIT	**PAPER NUMBER**
2874	

DATE MAILED: 04/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/037,971	STEINBERG ET AL.	
	Examiner	Art Unit	
	Scott Alan Knauss	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *32 and 35-44* is/are allowed.

6)☒ Claim(s) *25-31,33 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments / Arguments

1. Applicant's response filed 2/10/04 has been entered and carefully considered by the examiner. The previous grounds of rejection have been withdrawn, and, in view of new claims 25-44, the following new grounds of rejection are applied. This action is made **FINAL**.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 25,26 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Kakii et al, previously cited by the examiner.

Regarding claim 25, Kakii discloses in fig. 11B:

A chip #1 having the front, back and main surfaces with a groove in the main surface for holding a fiber

A mount #41 made of molded plastic (a type of polymer) – see col. 9, lines 55-57, the mount having a channel receiving the chip.

Wherein the chip is adhesively secured in the channel (see col. 9, line 67 - col. 10, line 2), such that the front and main surfaces are exposed, the channel being longer than the chip, providing a recessed area behind the chip.

Regarding claim 26, since the mount #41 has a shape which conforms to the sides of chip #1, it can be considered to be "molded" to the chip.

Regarding claim 31, figs. 10a and 10b disclose the use of a rubber boot #13 serving as a strain relief assembly extending from the back portion of the molded mount.

4. Claims 33 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Demangone, previously cited by the examiner.

Regarding claim 33, Demangone discloses in figs. 5-6a a fiber array half with all the limitations set forth in the claim including:

A first chip #38 having at least one groove formed in a top surface and extending longitudinally from a front face #48 to a back face #41, the chip having a bottom, the grooves receiving optical fibers.

A molded mount #72 consisting of polymer material (see col. 4, lines 42-47) having top and bottom portions, an open channel being formed through the top portion, being configured to receive the chip for mounting therein.

The chip being rigidly secured within the channel, the channel configured to provide exposure of the front and top of the chip.

Furthermore, the slanted sides of chip #38 can be considered to be a "re-entrant" shape (as they have substantially the same shape as shown in the current application), to which the mount #72 conforms, locking the chip into the channel.

Regarding claim 34, it is apparent from fig. 6, that the corners of chip #38 and mount #72 are configured to provide the "re-entrant" shape

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kakii et al.

Regarding claim 28, Kakii discloses the use of polymer material, but does not specify the use of noncrystalline material.

Nevertheless, since Kakii does not limit the type of material to be used for the mount, and since noncrystalline polymer materials are well known in the art, it would have been obvious to one of ordinary skill in the art to select known materials to form the housing of Demangone, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 29, Kakii discloses that chip #1 may be silicon (see col. 9, lines 29-31) and may be single crystal (col. 3, lines 34-36). However, Kakii does not explicitly state "single crystal silicon".

Nevertheless, v-grooved single crystal silicon substrate are very well known in the art, and it would have been obvious to one of ordinary skill in the art to use known types of silicon substrates for the purpose of holding optical fibers.

Regarding claim 30, Kakii discloses in figs. 8-12 the use of a chip #1, which may be silicon (see col. 5, lines 65-68) and extends from the front portion of the mount, but does not disclose whether the chip can extend from the mount for up to 100 micrometers.

Nevertheless, since there is no stated criticality for such an extension distance, it would have been a mere matter of design choice to one of ordinary skill in the art to adjust the amount by which chip #1 extends to any desired distance. Furthermore, it has been held that, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

8. Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2-272506 (Hirao et al).

Regarding claim 25, Hirao discloses in figs. 2 and 13 a fiber array device comprising:

A chip #4 having a main surface, front and back faces, and at least one groove in the main surface for holding a fiber, the groove extending from the front to the back face

A mount #3 holding the chip, the mount having a channel for receiving the chip.

The chip being rigidly secured in the channel (see fig. 2), the channel being configured so that the front and main surface of the chip are exposed, the channel being longer than the chip, leaving a recessed area behind the chip.

Hirao does not discloses (1) the mount being molded polymer or (2) the chip being secured with adhesive.

Nevertheless, with regards to (1), in consultation with a translator it was found that Hirao does not limit the material of which the mount is to be made, and since molded mounts for holding chips are known in the art (see for example Kakii above) it would have been obvious to modify Hirao to provide a molded mount of polymer for the purpose of providing a hard, lightweight housing to protect chip #4.

Second with regards to (2), it is further known to fix chips in place using adhesive (see again Kakii above), and thus it would have further been obvious to use adhesive for the purpose of fixing chip #4 in place within mount #3.

Regarding claim 27, Hirao discloses in fig. 13 a main surface of the chip being in the same plane as a surface of the mount in which the channel is formed.

Allowable Subject Matter

9. Claim 32 and 35-44 are allowed.

Regarding claim 32, prior art fails to disclose a fiber array device as set forth in the claim, where the chip is rigidly secured within the channel, the channel is longer than the chip providing a recessed area behind the chip, and the chip and mount are configured for providing a press fit and frictional securement therebetween.

Regarding claims 35,36 and 37, these claims contain the allowable subject matter of original claims 16,17 and 20, respectively, and are thus also allowable. Claim 38 is allowable for depending from claim 37.

Regarding claims 39-44, prior art fails to disclose a fiber array having first and second chips in first and second molded polymer mounts, where each mount has a channel longer than the chip, providing a recessed area behind the chip, where the main surfaces of each chip faces each other.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Alan Knauss whose telephone number is (571) 272-2350. The examiner can normally be reached on 9-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott Knauss Art Unit 2874

sak

HEMANG SANGHAVI
PRIMARY EXAMINER